REMARKS/ARGUMENTS

Claims 1-33 are pending in this application. Claims 1-7, 11-19, 22-27, and 30-33 have been amended. No claims have been added or canceled. No new matter has been introduced by virtue of these amendments. Reconsideration of the rejected claims is respectfully requested.

Section 112 Rejections of Claims 4 and 15

Claims 4 and 15 were rejected under 35 USC § 112, second paragraph, because "the element ring is claimed but is vague and indefinite..." Claims 4 and 15 have been amended to remove the phrase "unidirection ring." Thus, the Section 112 rejections of claims 4 and 15 are believed to be overcome.

Section 102 Rejections of Claims 1-3, 5-14, and 16-33

Claims 1-3, 5-14 and 16-33 were rejected under 35 USC § 102(b) as being anticipated by Cotner et al. (U.S. Patent No. 6,247,055) (hereinafter "Cotner"). Allowance of the claims is respectfully requested for the reasons discussed below.

Independent claims 1, 8, 12, 19, 24, and 31 are directed to methods and systems for switching management of a database storage area from a first database server (e.g., DBMS) running on a first computer to a second database server running on a second computer based upon substitution information when the first computer fails. For example, amended claim 1 recites, in part, "when a failure has occurred in one of said plurality of computers as a failed computer, obtaining preset substitution information indicating that the storage area managed by the DBMS running on said failed computer is to be managed by the DBMS running on another one of said plurality of computers as a substitute DBMS; and based on said substitute information, changing association of said storage area with said DBMS on said failed computer to said substitute DBMS, said storage area to be managed by said substitute DBMS running on said another computer." See also independent claims 12, 24, and 31.

Independent claim 8 similarly recites "if one of said plurality of database servers is found to have failed as failed database server..., obtaining an identifier of another one of said plurality of database servers as a substitute database server which is to take over said processing

from said failed database server... and switching from said failed database server to said substitute database server for receiving said request for said processing..." See also independent claim 19.

In other words, embodiments of the present invention relate to maintaining high availability in a "share nothing" distributed database management system when processing units in the system fail. Thus, when a first database server (e.g., DBMS) running on a first computer is unable to handle requests to its associated storage area because the first computer has failed, a second database server running on a second computer will become associated to the first database server's storage area (based on present information), thus allowing requests to the storage area to be serviced by the second database server while the first is down.

As best understood, the invention of Cotner is directed to a complete different problem. Namely, Cotner discloses a method for "resyncing" a client computer with a single database server that has failed and then resumed operation. "A client is able to perform two-phase commit with a same DBMS server that may have moved to a new network address before a transaction was committed." Abstract. As such, Cotner is not concerned with maintaining availability to a storage area associated to a first database server while the first database server is down by redirecting client requests to a second database server. Rather, Cotner is concerned with reestablishing a connection between a client computer a specific database server when the database server has failed and then restarted. "Each operating system on each of the machines contains an automatic restart manager facility... after restart, the clients can perform resynchronization with the failed DBMS member." Col. 6, lines 40-47; see also Fig. 3. Cotner makes no mention of how client requests to a failed database server are handled while the database server is in a failed state. Thus, Cotner fails to teach or suggest "when a failure has occurred in one of said plurality of computers as a failed computer... changing association of said storage area with said DBMS on said failed computer to said substitute DBMS, said storage area to be managed by said substitute DBMS running on said another computer" as recited in independent claim 1, and as recited in similar limitations in independent claims 8, 12, 19, 24, and 31.

The Examiner asserted that the "resync port number" in Cotner corresponds to the "substitution information" recited in the claims of the present invention. However, the resync

port number is simply the network address of a single database server. When the database server fails and then reappears at a different network address, clients may consult the resync number to find the new network location of the server. In contrast, the substitution information of the present invention contain mappings between different database servers. See Fig. 6 of Specification. Thus, the substitution information of the present invention is a mechanism to redirect client requests from one database server to another, rather than simply to a different network address of the same database server. Accordingly, Cotner does not teach or suggest "substitution information" or a "substitution control section" as recited in independent claims 1, 8, 12, 19, 24, and 31.

For at least the reasons presented above, Applicants respectfully submit that independent claims 1, 8, 12, 19, 24, and 31 are in condition for allowance. Applicants further submit that dependent claims 2, 3, 5-7, 9-11, 13, 14, 16-18, 20-23, 25-30, 32, and 33, which depend from claims 1, 8, 12, 19, 24, and 31, are also in condition for allowance.

Section 103 Rejections of Claims 4 and 15

Claims 4 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cotner et al and further in view of Bromely (U.S. Publication No. 2004/0039756) (hereinafter "Bromley").

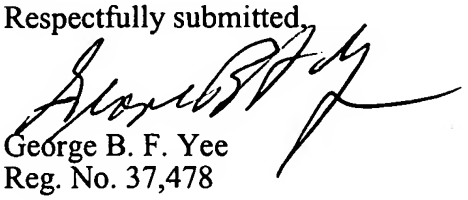
As discussed above, Cotner, standing alone, fails to teach or suggest all of the claimed limitations of independent claims 1, 8, 12, 19, 24, and 31. Similarly, Bromely, which the Examiner identified as simply teaching a "ring" network structure, fails to teach or suggest all of the claimed limitations of the independent claims. As such, Cotner and Bromely, in combination, fail to teach or suggest all of the claimed limitations of the independent claims. Accordingly, Applicants respectfully submit that claims 4 and 15, which depend from independent claims 1 and 12, are in condition for allowance.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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